Agenda

Massachusetts Avenue – Sidney Street to Memorial Drive

- Welcome & Introductions
- Project Background
- Corridor Information
- Design Toolbox
- Next Steps
- Breakout Discussion: Corridor Review
V**ision Zero** calls for the elimination of fatalities and serious injuries resulting from traffic crashes, and emphasizes that they can, and should be prevented (2016).

**Complete Streets** are designed and operated to enable safe access for all users—regardless of age, ability, or mode of transportation (2016).

**Vehicle Trip Reduction Ordinance** established programs to encourage alternatives to single-occupancy vehicle travel (1992).

**Cambridge Growth Policy** emphasizes sustainable modes of transportation such as walking, biking and using transit and low-emission vehicles, which promote livability and help to improve air quality and reduce greenhouse gas emissions (1993/2007).
Guiding Plans
Lafayette Square to the Charles River from Sidney Street to Memorial Drive
Existing Conditions

Lafayette Square to the Charles River
from Sidney Street to Memorial Drive
Existing Conditions

Mass. Ave. Cross-Section (at Amherst Street)

- 88’ wide
- On-street bike lane
- On-street vehicle parking
- Mix of meters and other parking
- Bus stops
- Curb extensions at multiple locations
CORRIDOR INFORMATION

Existing Users

People Walking

Walking in this corridor:

- Boston/Cambridge connection
- Charles River to Central Square
- MIT intra-campus
- Local businesses
Users: Transit, Driving, Bicycling

Massachusetts Avenue (North of Amherst at MIT)

Weekday AM peak hour

Weekday PM peak hour

People using bus
People biking
Number of motor vehicles
People Biking - Bicycle Level of Comfort Analysis

• People have varying levels of tolerance for traffic stress created by volume, speed, proximity of adjacent traffic and on-street parking.

• An all-ages and ability network has BLC of 1 or 2.

• Facilities with BLC 1 or 2 are generally safest.
## People Biking - Bicycle Level of Comfort Analysis

<table>
<thead>
<tr>
<th>BICYCLE LEVEL OF COMFORT</th>
<th>TYPICAL CRITERIA</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Protected/ Separated or Shared with ADT &lt;2K or Shared with Speed &lt;30 mph</td>
<td>Pemberton Street, Community Path, Vassar Street</td>
</tr>
<tr>
<td>2</td>
<td>Wide/Buffered Bike Lane or Bike Lane w/out Parking adjacent or Shared with ADT 2-4K or Shared with Speed &lt;30 mph</td>
<td>Richdale Avenue, Broadway</td>
</tr>
<tr>
<td>3</td>
<td>Bike Lane adjacent to Parking or Shared with Speed 30 mph or Shared with ADT 4-6K or Narrow Operating Space</td>
<td>Magazine Street, Main Street</td>
</tr>
<tr>
<td>4</td>
<td>Shared with Speed 30+ mph or Shared with ADT 6-15K or High Frequency Bus Route</td>
<td>Massachusetts Avenue, Broadway</td>
</tr>
<tr>
<td>5</td>
<td>Shared with Speed 35+ mph or Shared with ADT 15+K and No Parking and 2+ Travel Lanes per direction</td>
<td>Land Boulevard, O’Brien Highway / Route 28</td>
</tr>
</tbody>
</table>
Corridor Users: People Bicycling

Throughout the entire corridor length, users experience the second lowest level of comfort.
Corridor Safety History

Reported Crashes Requiring EMS Transport, 2015-2016
Corridor Safety History

Reported Bicycle Crashes, 2015-2016

Project Limits
Transit Service Analysis

MBTA Bus Route 1*: AM Peak

Areas of most concern

Composite Grade*
- Excellent (A)
- Good (B)
- Satisfactory (C)
- Unsatisfactory (D)
- Poor (E)
- Failing (F)
- N/A

*Route 1 is ranked in top 5 MBTA bus routes for ridership.

*Criteria:
Excess vehicle travel time compared to a minimum
Passenger time (travel time x riders)
Reliability (how much the travel time varies)
MBTA Bus Route 1: PM Peak

Method: Automatic Passenger Counter (APC) Data (MBTA)
CORRIDOR INFORMATION

Corridor Users: People Driving

2016 Massachusetts Avenue/ Main Street Traffic Volume Study

Weekday Motor Vehicle Volumes

- Eastbound = 6,713 vehicles/day
- Westbound = 6,166 vehicles/day

Cambridge average vehicle occupancy = 1.1, therefore:

- Eastbound = 7,385 people/day
- Westbound = 6,783 people/day

Based on 2016 VHB study conducted on Massachusetts Avenue west of Sidney Street on a Tuesday and Wednesday in mid-May.

For more information: https://www.cambridgema.gov/~/media/Files/CDD/ZoningDevel/SpecialPermits/sp319/sp319_tis.pdf?la=en
DESIGN TOOLBOX

Project Goals

- Address safety issues and reduce crashes - Vision Zero
- Reduce transit delays
- Enable/encourage people of all ages and abilities to choose sustainable transportation
Design Considerations

- Bicyclist safety & comfort
- Pedestrian safety & comfort
- MBTA Bus stops
- MBTA Bus reliability
- Tour Bus pick-up/drop-off
- Accessible parking
- Loading & deliveries
- Street maintenance
- On-street parking
**Design Considerations**

- Bicyclist safety and comfort
Design Considerations

- Pedestrian safety & comfort:
  Crosswalks and sidewalks
Design Considerations

- Bus stops
- Reliability: Queue jumps, signal priority
Design Considerations

- Private shuttles, tour bus & other pick-up and drop-off
- Food truck locations
Design Considerations

- Accessible parking
- Loading and deliveries
Design Considerations

✓ Street maintenance
Design Considerations

- On-street parking
Potential Project Toolbox

- Signage
- Pavement Markings
- Flexible Delineator Posts
Potential Project Toolbox

- Turn Lanes
- Bus Queue Jump/ Priority Lane
- Additional Crosswalks
- Signal Phasing and Timing
NEXT STEPS

Data Collection

- Motor Vehicle Parking Study
  - Inventory existing on-street parking
  - Inventory public streets only
  - Conduct occupancy study

- Bicycle & Pedestrian counts
- Bus travel time/delay analysis
- Conduct traffic counts at key intersections
NEXT STEPS

Data Collection

✓ Parking Inventory Study

LEGEND
- BUS STOP
- HANDICAP
- METERED
- LOADING/PICK UP & DROP OFF
- NO PARKING
- TAXI
- PERMITTED VENDOR
Adjacent Utility Work

Pipe Jacking Beneath Red Line Tunnel
Implementation Steps

**PLANNING**
- Identify measures of effectiveness
- Develop detailed plan
- Community engagement
- Develop mitigation measures

**IMPLEMENTATION**
- Procure materials
- Issue regulations
- Remove / reinstall pavement markings
- Installation of new elements

**OPERATION**
- Street cleaning
- Snow clearance
- Enforcement
- Communications strategy

**EVALUATION**
- After data collection and analysis
- Community engagement
- Decisions on next steps
NEXT STEPS

Schedule

Bicycle, pedestrian, traffic counts
April

Public Meeting #1
Early May

Refine design
May - August

Public Meeting #2/Open House
June/July

Evaluation

Advisory Committee Meeting #1
April 11

Parking study
Week of April 1

Advisory Committee Meetings #2-3
Mid-May, June

Implementation
Late Summer 2018
NEXT STEPS

Community Engagement

Feedback from Stakeholders and the Public

- Wikimap: map and web link coming soon
- Up to 3 stakeholder meetings
- 2-3 public workshops
- Additional community engagement
- Post-implementation feedback and evaluation

More Information and Contact

Project Website: coming soon

Contact: Bill Deignan, Community Development, wdeignan@cambridgema.gov
Chris Balema, Kleinfelder Project Manager, Community.Cambridge@kleinfelder.com
**South Mass. Ave. Corridor**

- 88’ wide
- On-street existing bike lane
- Parking on both sides
- Mix of meters and other parking
- Bus stops and bus pullouts
- Curb extensions at multiple locations